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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,030	02/20/2004	Joachim Sacher	SA 111	1724

7590 10/04/2005

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EXAMINER

LEPISTO, RYAN A

ART UNIT	PAPER NUMBER
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2883

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/784,030

Applicant(s)

SACHER ET AL.

Examiner

Ryan Lepisto

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 27 January 2004. It is noted, however, that applicant has not filed a certified copy of the Germany 2004 230.8 application as required by 35 U.S.C. 119(b).

Information Disclosure Statement

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. A copy of all non-patent literature and foreign patent documents need to accompany the PTO-892.

Claim Objections

3. Claim 15 is objected to because of the following informalities: The second occurrence of "has" should be – which – (same format as claim 17). Appropriate correction is required.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 15' (Fig. 1). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1-3, 10 and 12-14** are rejected under 35 U.S.C. 102(b) as being anticipated by **Sacher (US 5,867,215)**. Sacher teaches a laser diode Littman arrangement (Figs. 1A, C) for generating single mode tunable radiation comprising a

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laser diode (1) having an anti-reflection coating (2), a front facet (near 2) and rear facet (opposite the front facet) forming a first resonator, an external resonator (2, 4, 7) coupled to the first resonator, a collimating lens (3), a refraction grid (4), a mirror (7) and cylindrical (aspheric) lens (16). Light from the diode (1) is collimated by lens (3) and coupled to the refraction grid (4) to the cylindrical lens (16) and mirror (7) and back to the first resonator (column 5 lines 39-55, column 6 lines 1-17) wherein because this is a Littman arrangement the refraction grid (4) has to be in at least in an area of the Raleigh length of the focus of the lens (3).

6. **Claims 1, 4-14 and 17-19** are rejected under 35 U.S.C. 102(b) as being anticipated by **Mehuys et al (US 5,537,432)** (Mehuys). Mehuys teaches a laser diode arrangement for generating single mode tunable laser radiation (Figs. 1, 2A-B, 13, 15) comprising a laser diode (11, 136, 156) having a rear facet (21, 134, 154) having a reflectivity of between 0.5 and 5% (column 4 lines 25-274) and coupled to an additional collimator (Fig. 13, 142) (that can be a GRIN rod (cylinder) lens, column 4 line 35), an anti-reflection coating (AR) on a front facet (23, 162) having a reflectivity of 0.1% or less forming a first resonator and tapered trapezoidal shaped section (17, 19) with widths from 0.5 to several μm (column 5 lines 5-6) that blocks certain light (Fig. 3) and therefore has a less than 1:1 ratio between the rear facet (21) and grating (15, 132, 140, 145), the grating reflects all light incident on it, an external resonator (Fig. 1 (13, 15); Fig. 13 (132, 138, 140, 142); Fig. 15 (152, 158, 160)), a collimating lens (13, 138, 142,

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160) and grating (15, 132, 140, 145) arranged to reflect light back to the diode (11), a mirror (Littman configuration, Fig. 15, 152) and an array of diodes (Fig. 26).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 15 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sacher as applied to claims 1-3, 10 and 12-14 above, and further in view of **Duarte (US 4,891,817)**.

Sacher teaches the diode arrangement described above.

Sacher does not teach expressly a rectangular shaped active area with a width of between 5 and 600 μm .

Duarte teaches a laser diode arrangement using a rectangular cross section diode having a width of 500 to 100 μm (column 4 lines 66-67).

Sacher and Duarte are analogous art because they are from the same field of endeavor, laser diode arrangements.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a rectangular active area with known widths as taught by Duarte and Sacher.

The motivation for doing so would have been increase transmission efficiency by choosing a width that will match the input and output to other system components (Duarte, column 4 lines 58-68).

In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. **Claims 1-2 and 4-14** are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as to an invention not patentably distinct from claims 1-5 and 16-28 of commonly assigned application 10/783,879 and from claims 1-2, 4 and 9-26 of commonly assigned application 10/784,029. Although the

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conflicting claims are not identical, they are not patentably distinct from each other because the differences are in specially defined terms and not in basic structure.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- The following are the published applications of the double patenting applications from above: Sacher (US 2005/0105567 A1) and (US 2005/0105566 A1).
- The following are pertinent to the multiple resonant cavity tunable laser diode arrangements: Nazarathy et al (US 4,942,583), Rao (US 5,121,398), Luecke (US 5,319,668), Lefevre et al (US 5,594,744), Zorabedian (US 6,108,355), Sesko et al (US 6,205,159 B1), Vilhelmsson et al (US 6,597,710 B2).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Lepisto whose telephone number is (571) 272-1946. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ryan Lepisto

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Date: 8/22/05



Frank Font

Supervisory Patent Examiner

Technology Center 2800